

Title (en)  
PISTON RING, RAW MATERIAL THEREFOR, AND PRODUCTION METHOD FOR BOTH

Title (de)  
KOLBENRING, ROHMATERIAL DAFÜR UND HERSTELLUNGSVERFAHREN FÜR BEIDES

Title (fr)  
SEGMENT DE PISTON, MATÉRIAU BRUT POUR CELUI-CI, ET PROCÉDÉ DE PRODUCTION POUR LES DEUX

Publication  
**EP 3006787 A1 20160413 (EN)**

Application  
**EP 14807123 A 20140605**

Priority  
• JP 2013120497 A 20130607  
• JP 2013252020 A 20131205  
• JP 2014043753 A 20140306  
• JP 2014065010 W 20140605

Abstract (en)  
To provide a large, light-weight, low-tension steel ring contributing to improvement in fuel efficiency and having excellent wear resistance and scuffing resistance, and its blank body and their production methods, steel comprising C, Si, Mn and Cr as indispensable alloy elements, and Ni, V, Mo and V as optional alloy elements, and having adjusted thermal conductivity and/or thermal sag resistance is subjected to hot forging including ring rolling, to form a cylindrical steel body, from which a large steel ring having a nominal diameter d1 of 200 mm or more and less than 1100 mm, and reduced ring width h1 and radial thickness a1 is obtained.

IPC 8 full level  
**F16J 9/12** (2006.01); **B21H 1/06** (2006.01); **B21J 5/08** (2006.01); **B21J 5/10** (2006.01); **B21K 1/18** (2006.01); **C21D 1/06** (2006.01); **C21D 9/40** (2006.01); **C22C 38/00** (2006.01); **C22C 38/32** (2006.01); **C22C 38/46** (2006.01); **F02F 5/00** (2006.01); **F16J 9/26** (2006.01)

CPC (source: CN EP)  
**B21H 1/06** (2013.01 - EP); **B21J 1/04** (2013.01 - CN); **B21J 1/06** (2013.01 - CN); **B21J 5/00** (2013.01 - CN); **B21J 5/10** (2013.01 - CN); **B21K 1/18** (2013.01 - EP); **B23P 15/06** (2013.01 - CN); **C21D 7/13** (2013.01 - CN EP); **C21D 9/40** (2013.01 - CN EP); **C22C 37/08** (2013.01 - EP); **C22C 37/10** (2013.01 - EP); **C22C 38/02** (2013.01 - CN EP); **C22C 38/04** (2013.01 - CN EP); **C22C 38/22** (2013.01 - CN EP); **C22C 38/24** (2013.01 - CN EP); **C22C 38/32** (2013.01 - CN); **C22C 38/40** (2013.01 - CN EP); **C22C 38/44** (2013.01 - CN); **C22C 38/46** (2013.01 - CN); **F16J 9/062** (2013.01 - EP); **F16J 9/20** (2013.01 - EP); **F16J 9/26** (2013.01 - CN EP); **B21J 5/08** (2013.01 - EP); **B21J 5/10** (2013.01 - EP); **C21D 1/06** (2013.01 - EP); **C21D 2211/004** (2013.01 - CN EP); **C21D 2211/008** (2013.01 - CN EP)

Cited by  
EP3786493A4; CN105921651A; CN111334702A; EP3682982A4; US10227670B2; EP3098485A4; CN110678560A; EP3683006A4; WO2018215269A1

Designated contracting state (EPC)  
AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO RS SE SI SK SM TR

Designated extension state (EPC)  
BA ME

DOCDB simple family (publication)  
**EP 3006787 A1 20160413**; **EP 3006787 A4 20170719**; CN 105283697 A 20160127; CN 105283697 B 20180223; CN 107255053 A 20171017; CN 107255053 B 20191105; CN 107262641 A 20171020; CN 107269836 A 20171020; KR 20160029793 A 20160315; WO 2014196614 A1 20141211

DOCDB simple family (application)  
**EP 14807123 A 20140605**; CN 201480030692 A 20140605; CN 201710243454 A 20140605; CN 201710243543 A 20140605; CN 201710243544 A 20140605; JP 2014065010 W 20140605; KR 20167000225 A 20140605